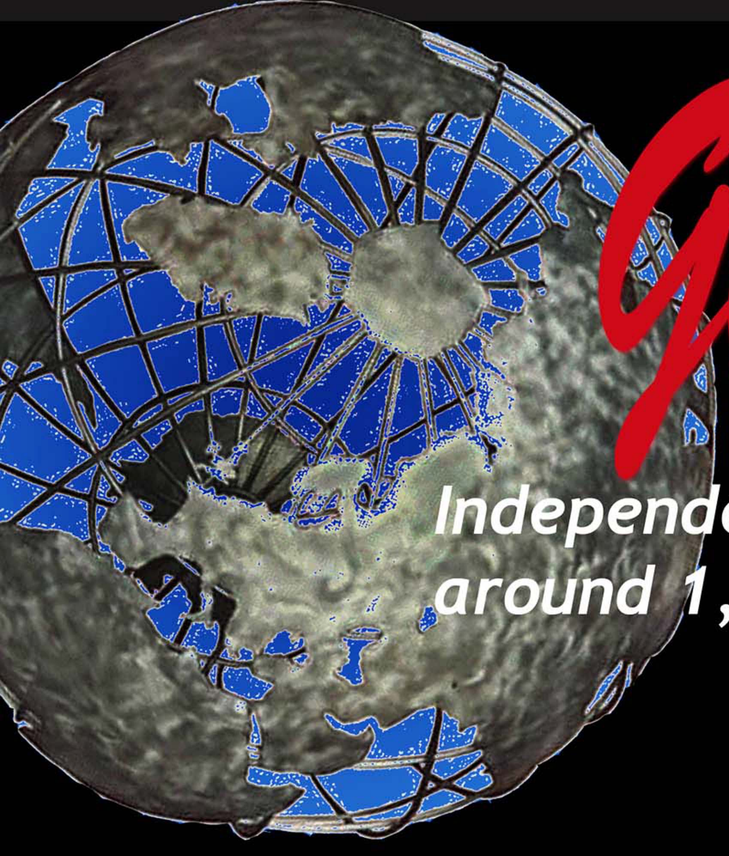


Global Oil Endowment

Independent work by my colleagues and myself suggests a figure around 1,800 billion barrels to be a reasonable maximum.

H.R. Warmen, 1972, Chief Geologist, British Petroleum Company regarding estimates of ultimate recovery of world crude oil

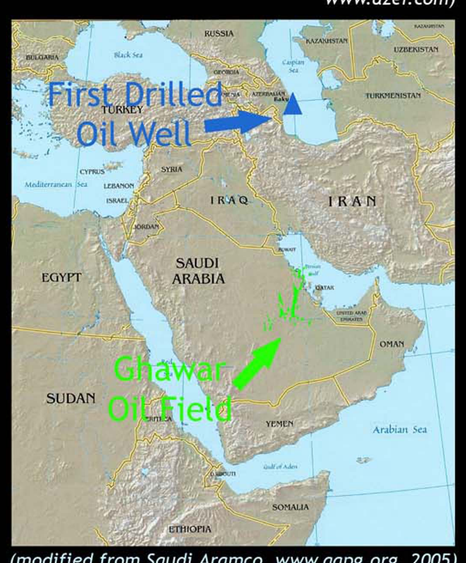
World's First Oil Well

The first oil well to be drilled by a mechanical device was in Bibi-Heybat, Azerbaijan in 1846. The successful well was drilled to a depth of 21 meters.

Oil wells in the Baku area, ca. 1890.
(photograph courtesy of Azerbaijan National Archives, www.azer.com)

However, oil had been extracted from hand-dug shafts and wells in the region for hundreds of years, as described by Muhammad Bekran in the 13th century after his visit to Balakhani (Baku, Azerbaijan) and as indicated by an inscription inside a 35-meter deep well which gave the year of construction as 1594.

(M. Y. Mir-Babayev, 2002, www.azer.com)

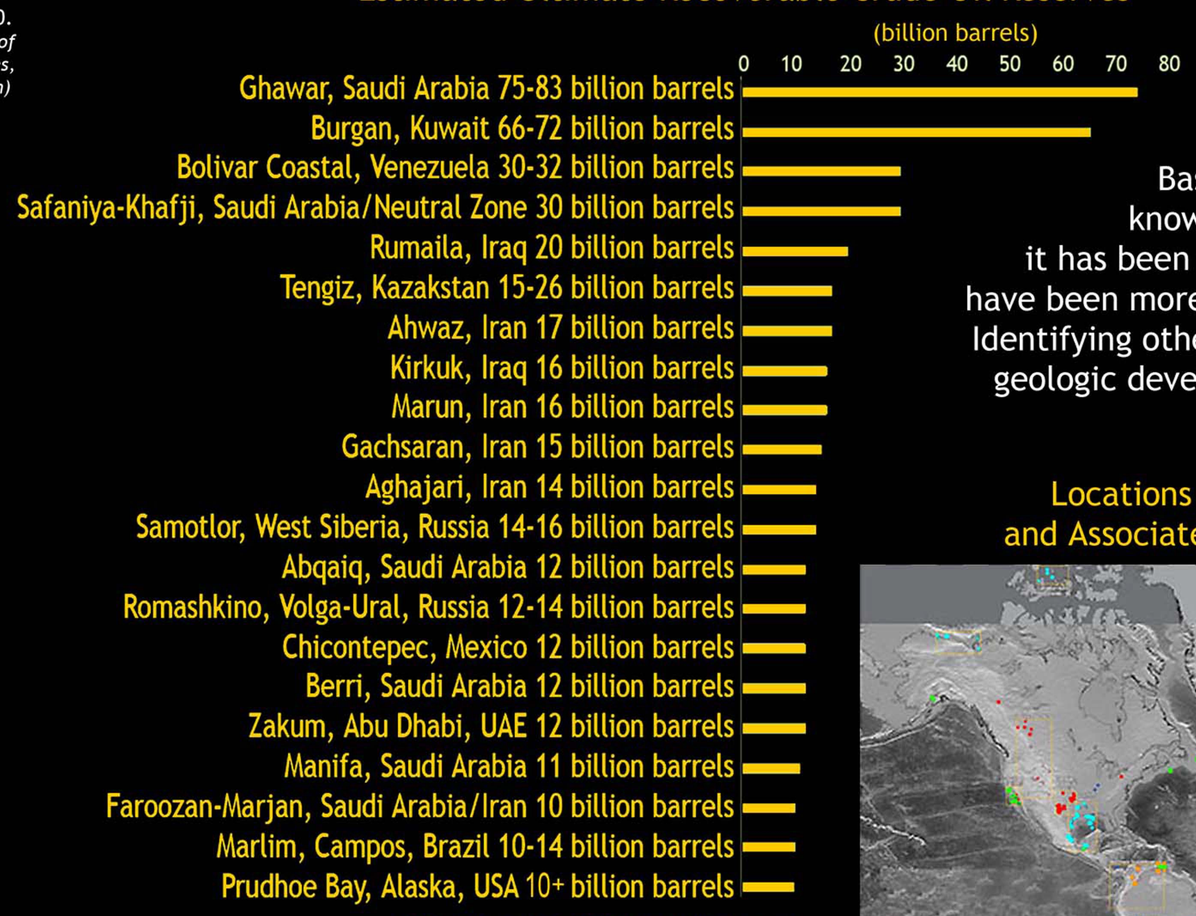


(modified from Saudi Aramco, www.aapg.org, 2005)

Giant Oil and Gas Fields
Geologic Origins

Most known giant oil and gas fields (with 500 million barrels or greater of ultimately recoverable oil or gas equivalent) cluster in regions on about 30% of the earth's land surface. These giant fields contain 67% of the world's currently known petroleum reserves.

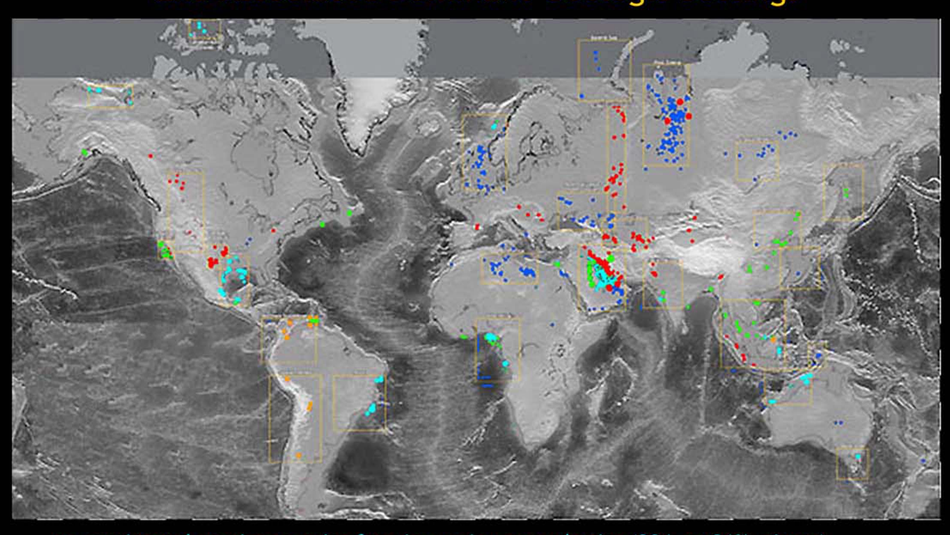
Estimated Ultimate Recoverable Crude Oil Reserves



(Gibson Consulting, 2005, www.gravmag.com)

Based on the clustering of these fields and knowledge of each region's geologic history, it has been suggested that certain geologic settings have been more conducive to generation of petroleum. Identifying other regions which have undergone similar geologic development may lead to new discoveries of giant oil and gas fields.

Locations of Giant Oil and Gas Fields and Associated Dominant Geologic Settings



- continental passive margins fronting major ocean basins (304, or 31%, giants)
- continental rifts and overlying sag basins (271, or 30%, giants)
- continental-continental collison margins (173, or 24%, giants)
- collisional margins produced from continental collision related to terrane accretion, arc collision and/or shallow subduction (71 giants)
- strike-slip margins (50 giants)

(Paul Mann, 2001, www.findarticles.com)

Conventional Oil
Liquid and Flowing

Conventional oil is defined generally as petroleum found in liquid form, flowing naturally or capable of being produced by primary or secondary recovery methods (i.e., physical lift, water flood, and water or natural gas pressure maintenance). Based on this definition, conventional oil currently accounts for about 95% of all oil production in the world.

(www.oildepletion.org)

World's Largest Oil Field

Ghawar, Saudi Arabia, is the world's largest oil field. The oil pool is approximately 140 miles long and covers 875 square miles. The oil column reaches a maximum of 1,300 feet in thickness.

(Joseph P. Riva, Jr., 1995, www.ncseonline.org)

Oil Exporting Countries
Marketing Natural Resources

The Organization of the Petroleum Exporting Countries (OPEC) was founded on September 14, 1960 by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela, countries which are heavily reliant on oil revenues as their main source of income. The mission of OPEC is to "ensure the stabilization of oil prices in international oil markets with a view to eliminating ... fluctuations; securing a steady income for oil-producing nations; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on their capital to those investing in the petroleum industry."

(www.opec.org, 2005)

Current OPEC Member Countries

(modified from www.opec.org, 2005)

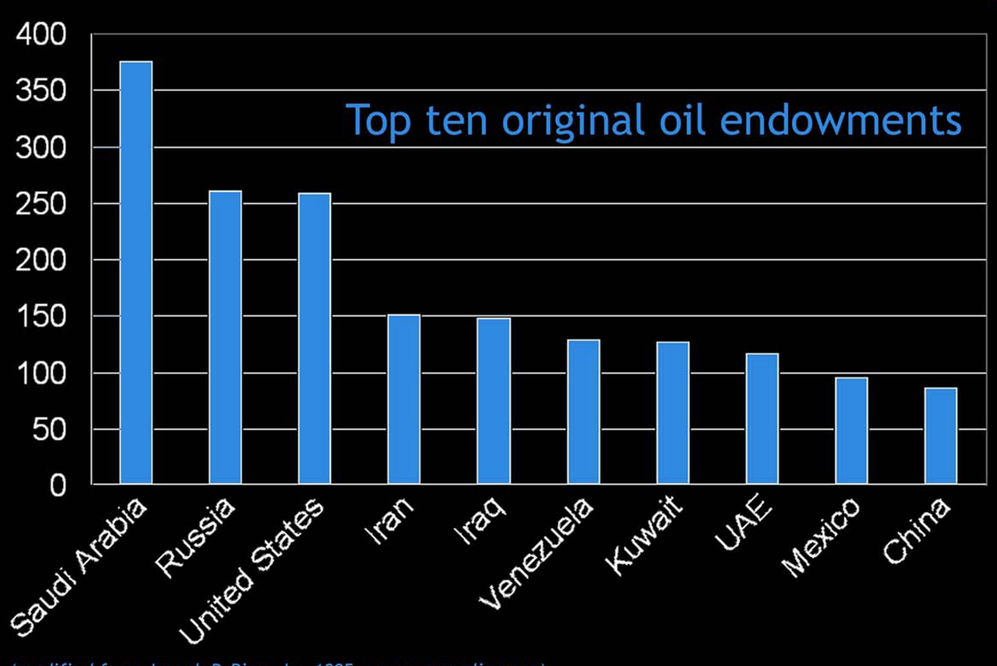
As of year-end 2003, the world's total proved crude oil reserves were estimated at about 1,147,700,000,000 barrels (or 1.1477 trillion barrels.) Of that amount, approximately 77% is controlled by nations which are members of OPEC, shown in green.

OPEC and Non-OPEC Estimated Oil Reserves by Year

(British Petroleum, Statistical Review of World Energy 2004, www.bp.com)

Original Oil Endowment
Ultimately Recoverable Reserves

A country's original oil endowment can be estimated quantitatively by combining its cumulative production (the volume of oil it has already produced), with proved reserves (recoverable oil not yet produced from existing fields) and potential reserves (from growth of its existing fields), plus an estimate of yet-to-find resources (as-yet undiscovered reserves) based on geologic studies.



(modified from Joseph P. Riva, Jr., 1995, www.ncseonline.org)

cumulative production

(photograph courtesy of www.epa.gov)

current reserves

(photograph courtesy of www.sbcapcd.org)

yet-to-find reserves

(photograph courtesy of www.bp.com)

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